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(Volume 19 was incorrectly issued as Volume 18)

From the Editor

This was really supposed to be 'part 2' volume 19, but a lack of copy precluded publication late last year. This is not a sign entomologists are giving up! Like me, they are probably working longer hours in their gainful employment, and likely for less comparative reward. With the new (and mostly unwanted) regime forced upon us by a profit (at all costs) driven economy, there is little room for the sort of research that does not have an end result of eradicating sheep blowflies or tussock moths.

Scientists are becoming increasingly coy about publishing the results of their endeavours perchance there may be a 'commercially sensitive' end result to their research. They have little or no funding for 'blue skies' research and even the programmes that are funded are always at risk because of the whim of a politician. Unfortunately, our lives are ruled more and more by people who are the least qualified to do so. It is a sad commentary that these people can virtually dictate the sort of research that is carried out by imposing fiscal constraints. It is not only happening in New Zealand: World wide, the unimaginative accountants and politicians are doing the same thing. In England, scientists must, by law, retire upon reaching 60 if they work in a government institution. In France, I believe it is 55! The rationale being that there must be room at the bottom for the young scientist. By some crazy logic, a scientist is no longer useful at that magical age. Of course they can always become 'emeritus' and work for nothing, and without funding for equipment! A similar crazy logic applied 10 years ago when the government of the day suddenly cut funding and at one institute in the Hutt Valley: The politically appointed director of the day fired all the top scientists because their salaries were high. I was talking to an Australian scientist recently who applied for a job in New Zealand and was keen to come until he found out we were in the same boat at them.

What encouragement is there for young scientists to enter a vocation where there is no guarantee of a career path: Where they are likely to be forced to completely retrain for a different career after a few years?

The question is, what do we do about it?

John Tenquist.

Congratulations to Otago Museum Entomologist **Anthony Harris** on being awarded a New Zealand Science and Technology Medal, recognising his scientific research and 'notable contributions to the public awareness of science'. Anthony was awarded the Royal Society medal by the Society's National Vice-President Emeritus, Professor Neil Curtis at a ceremony in Dunedin.

Anthony is a natural history columnist for the Otago Daily Times and according to the newspaper report has published more than 500 natural history articles since 1986. He has also produced two large bio-systematic monographs on two groups of solitary wasps and has published more than 50 papers in scientific journals. Society Otago Branch President Doug Holborow said that Anthony was well known in Otago and throughout the country as an insect specialist and had established an eminent international reputation in his field, including the study of solitary wasps. He has contributed heavily to scientific research and some of his work, particularly on was predation and leaf-roller caterpillars, could bring multi-million dollar benefits to New Zealand horticulture said Dr Holborow.

This is not the first time Anthony's scientific excellence has been recognised. While still at Hawera High School, Anthony won first prize in two world-wide science competitions and had also won the British Waverley Gold Medal Research Essay Competition with an original study on beetles.

1996 ENTOMOLOGICAL CONFERENCE LINCOLN

The joint New Zealand/Australian Entomological Societies Meeting was held at Lincoln University from 22-27 August. Symposium sessions on NZ/Australian faunal connections, measures of success in biological control and insect conservation were held together with a strong selection of general papers. There were two presidential addresses, about 66 oral presentations and 20 poster presentations. An unusual feature was a short session on mosquitoes. A feature of Australian Entomological Society Conferences is the *Phil Carne Address* for the best student manuscript: This year's paper was by **Lindsay Baggen** from Orange Agricultural College entitled 'Seeking the right kind of diversity: enhancing the parasitism of potato moth by habitat manipulation'. The Lincoln University Department of Entomology and Animal Ecology gave a prize for the best student presentation which went to **Manthana Khumlekhasing** from the Univesity of Queensland for her paper entitled 'Pheromones, male aggregations and mating success in the flower thrips *Frankliniella schultzei*'.

The conference was an unqualified success, in terms of both science and communication, and it is hoped to repeat the joint conference format in Australia, perhaps in three years time to prevent conflict with the Entomology Congresses.

As part of the process of raising our awareness of how entomology fits into the current science structure, a panel discussion in the first days programme included **Don McGregor** of MoRST, **John Kay** from FoRST, **Sean Devine** from the association of CRI's and **Morgan Williams** who is managing a cross-sector project (prior to his appointment as Parliamentary Commissioner for the Environment). No simple answers to the current difficulties of cross-sector collaboration as raised in the presidential address were forthcoming, and we gained a greater appreciation of the need for us to sort these problems out for ourselves within the current structure. MoRST recognises the problem but has an advisory role only, while FoRST matches bids to research strategies for the various sectors. Some sectors have yet to define their strategy. Entomologists, and particularly those working in the field of community ecology/biological diversity/sustainability would appear to have a greater need for cross sector collaboration than some other scientific disciplines, because of the need for agreed protocols to handle the enormous taxonomic difficulties. These ensue from the presence of many undescribed species, and many difficult species complexes. Where taxonomy is not standardised of course, studies may not be compared. The lack of keys and dearth of autecological information for common species of many systems contribute to the problems faced. This research area provides a major opportunity for increased collaboration within the entomological discipline, but researchers need to define such collaboration in bids at the outset. They also need to ensure the inclusion of a clause giving pro-rata reduction of funds (rather than a trimming of collaboration), where funds provided are less than those bid for. FoRST is quite happy with revision of objectives in such cases. FoRST expressed an unwillingness for national bodies such as the Entomological Society to be involved in the bidding, as they would see us as yet another broker. The impending problems of sectoral ownership of information, where national agenda require sharing of this information, are at present unresolved. These problems are likely to be shared by microbiology, and mycology and of course are also arising in the various fields of genetic research.

Invertebrate ecology ad hoc working group

In response to a growing sense of fragmentation and lost opportunities in New Zealand invertebrate ecological research, **Richard Gordon** (Manaaki Whenua - Landcare Research) convened an ad hoc workshop during the conference. Representatives were invited from Crown Research Institutes (CRIs), universities, Department of Conservation and Ministry for the Environment. The evening workshop provided a brief overview of the activities and interests of the participant organisations. Research issues

were listed and, following three keynote presentations, research opportunities were prioritised.

Major themes were biodiversity and conservation issues (led by **Greg Sherley**, Department of Conservation, and **Steve Wratten**, Lincoln University) and techniques for community characterisation (led by **John Hutcheson**, Forest Research Institute). Calls were made for validation of Protected Natural Area classifications in respect of invertebrate fauna and for greater attention to the contribution of agricultural and semi-natural areas to endemic biodiversity.

Highest research priority was given to developing and agreeing consistent methodology for invertebrate community characterisation. This would apply both to field survey methods and to taxonomic treatment of field material. Other priorities were to develop validated population models for selected pest and non-pest species; greater study of invasion processes; and the basic ecology of guilds.

Development of underpinning systematics needed to address the lack of teaching and of new taxonomists, the need for closer interaction of taxonomists and ecologists and treatment of specific groups (e.g. carabids, cave invertebrates and earthworms) and immature stages.

The meeting provided a welcome opportunity to bring researchers back together following the divisions caused by creation of the CRIs and to talk in terms of collaborative research across the network of NZ invertebrate specialists.

Rowan Emberson, Lincoln University,
John Hutcheson, FRI and **Richard Gordon**, Landcare.

THE FINDING OF MEDITERRANEAN FRUIT FLY IN AUCKLAND, NEW ZEALAND AND THE MINISTRY OF AGRICULTURE'S RESPONSE

Peter W Holder [1], Barney Stephenson[1] Kay Chadfield[2] and Ruth Frampton[1].

Late on May 2, 1996, two male fruit flies identified as Mediterranean fruit fly (*Ceratitis capitata* [Diptera: Tephritidae] or "medfly" for short), were collected from a trimedlure trap in Mt Roskill. This and subsequent medfly finds in the same immediate area has triggered a containment and eradication programme implemented by the Ministry of Agriculture.

Economically damaging tephritids attack sound ripe and ripening fruits. Medfly is a particularly serious horticultural pest due to its extremely wide host range (infests more than 250 fruit and vegetable species), broad eco-climatical tolerance, and rapid growth potential. The permanent establishment of medfly in New Zealand would also have trade implications for much of New Zealand's horticultural industry.

The initial flies were detected by the ongoing fruit fly surveillance programme. As a result of these captures, an A-zone of 200 metres radius and a B-zone of 1.5 kilometres radius were defined around the site of the finds.

Intensified surveillance

By the end of May 4, additional traps had been placed in both the A and B zones so that the distribution of the adult population could be defined. In the A-zone, 106 trimedlure traps and 47 protein hydrolysate bait traps have been hung in fruiting host trees, including at least one trimedlure trap on each of the 78 residential properties and 21 trimedlure traps in untended bush. In the B-zone, trimedlure traps have been hung at a density of between 20 - 30 traps km^2 , giving a total of 231 B-zone traps.

Between May 2 and May 15, 41 adult medflies were caught. Nearly all were collected within five days of the response initiation. At the time of writing, there have been no adult catches since May 15.

Eggs and larvae are monitored by regular collections of ripe fruit from all preferred host plants in the A-zone. Sound fruit with no external sign of infestation are incubated at 26°C for a maximum of five days so that the almost invisible earliest life stages achieve detectable size. All fruit collected is dissected and examined for the presence of fruit fly immatures, and then destroyed immediately. Un-sound or suspicious looking fruit is not incubated but gets dissected etc straight away. The incubation, examination and destruction of fruit is done under strict and secure quarantine conditions (including barbed wire and burly guards)

Larval infestations have been detected in 12 pieces of fruit (feijoa, tangelo and grapefruit) from only five A-zone properties. These properties are also adjacent to the site of the initial adult finds. The last larval find was on May 23.

Eradication

As a result of adult flies being caught on May 5, spot spraying (no, not graffiti on Telecom dogs) of protein bait combined with maldison insecticide was initiated in the A and B zones. This involves the application of a minimum of one hundred 100-ml bait spots per hectare, with all host trees with fruit treated. Bait spot spraying is continuing

Cover and ground (directed at the soil inhabiting pupae) sprays are applied to any trees with infested fruit. In addition, all A-zone windfall host fruit is collected and destroyed weekly, or twice weekly at properties identified as those most likely to have larvae in fruit. Special care is taken not to remove all host fruit material, as host fruit deficiency is likely to encourage adults to disperse.

Other control efforts undertaken include preventing the movement of home grown host fruit from the A and B-zones, and ensuring fruit moving through the C-zone is insect proofed.

A co-ordinated team effort

The concurrent intensive sampling and control programmes as briefly described above have been carried out by closely co-ordinated specialised groups. We have achieved a great deal in a relatively short space of time and so far, the results of our efforts look promising. This has only been made possible thanks to capable and enthusiastic people, good leadership, and a carefully planned strategy based on sound technical decisions. It has been demanding and rewarding, and we'll still be here in the Spring!

[1]New Zealand Plant Protection Centre, MAF Quality Management, Lincoln. [2] MAF Regulatory Authority, Lincoln.

(well, spring has come and gone - Fortunately, the outbreak appears to have been contained)

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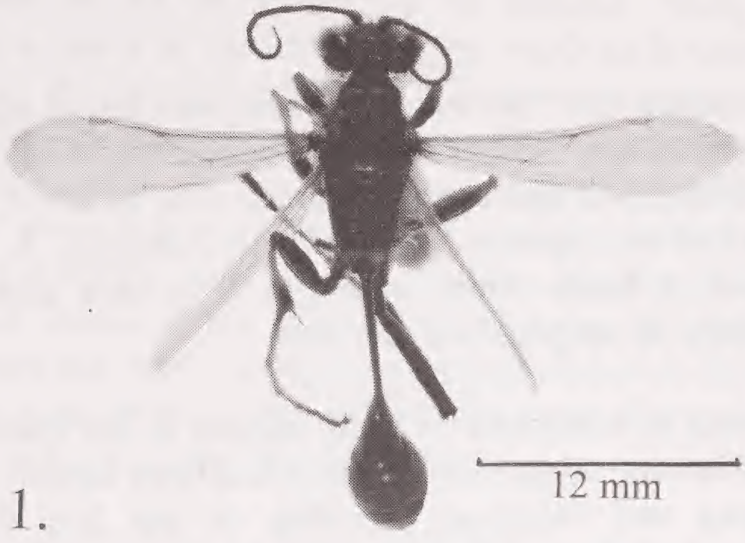
A NEST AND LIFE-HISTORY STAGES OF *SCELIPHRON CAEMENTARIUM* (HYMENOPTERA: SPHECIDAE) INTERCEPTED IN FIORDLAND

A. C. Harris
Otago Museum, PO Box 6202, Dunedin North

The author (1987, 1992) recorded accidental introductions to New Zealand of live individuals of three species of *Sceliphron* Klug (Sphecidae: Sceliphronini). Early and Townsend (1993) recorded the live introduction of a further species and provided records of interceptions of another 3 species. Seven *Sceliphron* species have been intercepted in New Zealand (often repeatedly), namely *S. assimile* (Dahlnom), *S. caementarium* (Drury), *S. coromandelicum* (Lepeletier), *S. laetum* (F. Smith), *S. formosum* (F. Smith), *S. madraspatanum* (Fabricius) and *S. spirifex* (Linnaeus). Of these, *S. caementarium* has been intercepted 7 times (including the present record).

In September 1996, while repairing a light fitting on the fishing vessel "Breaksea Girl" in Fiordland, New Zealand, the owner discovered a massive mud nest in the light base. He gave the nest (figure 2) to Mr. I. Southey, who passed it on to me. The eight celled nest measured 65 mm across. An individual cell was 38 mm long by 22 mm wide and had a maximum inside length and width of 36 and 14 mm. Basally, the cell curved increasingly inwards. Two cells contained cocoons, inside which were which were the remains of prepupae. The cells contained parts of the exoskeletons of sparassid spiders. The mud walls of the cells had been built up with mud strips arranged in a horizontal coil, and the outside cell walls were smoothed. A

partial outer covering of smooth mud was added. These features, the size of the cells, and other characteristics, enabled it to be identified as a nest of *Secliphron*



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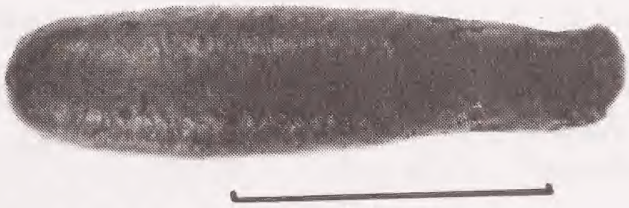

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1. *Sceliphron (S.) caementarium,* female. 2. Nest. 3. Cocoon.

(Sceliphron) caementarium (Drury). The adult wasp is about 25 mm long, and has a mostly black body (figure 1).

The exceptionally elongated cocoons were 28 mm long and 6.5 mm in maximum width. They were coloured light to vandyke brown, with the outsides very shiny (Figure 3).

The fishing vessel "Breaksea Girl" on which the nest was found was brought last year from Whitsunday Passage, Airlie Beach, Queensland, Australia, where *S. caementarium* is well established and common in the area, as are *S. laetum* and *S. formosum.* While the last two species are native to Australia, *S. caementarium* originally occurred only in North America, where it is very common, but has relatively recently extended its range over a vast area.

Last century it was spread by commerce to many islands in the Pacific, throughout the West Indies and in Madeira, while this century it has been further spread to Peru, Australia, Japan, France and Germany, arriving in the last three countries accidentally after 1945 in American military equipment.

Oddly, nests seem to survive detection in light fittings. In December 1990, I saw cells of this species found in Taranaki in the back of a headlight of a jeep that was part of a shipment of oilfield equipment. It had been stored outside in Texas, and after steam-cleaning, was shipped to New Zealand.

Sceliphron caementarium probably has the potential to become permanently established in northern New Zealand.

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A fellow rang MAF to report that he had one of the new sawflies in his kitchen.
The question, our receptionist wants to know is: Did he have a willow pattern dinner set?

TUSSOCK MOTH

The following has been contributed by Dr John Bain of the FRI for inclusion in Myrmecia, the Australian Entomological Society magazine:

In April this year larvae of a species of tussock moth, *Orgyia thyellina* (Lymantriidae) were found in Auckland. *Orgyia thyellina* is found in Korea, Japan, Taiwan, China and the Russian far east. Surveys conducted by the Ministry of Forestry showed that the tussock moth was confined to an area of about 7 km^2 in Auckland's eastern suburbs. It was found on a wide range of host plants and was damaging some of them (e.g. *Acer negundo & rosa* sp.) quite extensively. Because entomologists at the NZFRI said that *O. thyellina* has the potential to be a very serious pet in New Zealand, the Ministry of Forestry, in conjunction with other government agencies and research organisations, produced an Environmental Impact Assessment. This assessment concluded that the moth did pose a very significant threat to New Zealand's trees and an eradication attempt was justified.

Orgyia thyellina overwinters as eggs and the eradication campaign (dubbed 'Operation Evergreen') using a combination of aerial and ground sprays of *Bacillus thuringiensis kurstaci* began on October 5th after months of planning an a huge publicity campaign. The area being treated is 40 km^2 and a specially equipped DC 6 aircraft has been brought over from Canada for the operation. At present they are planning six or seven sprays at approximately weekly intervals. The sight of a DC 6 flying over Auckland at less than 50 metres above the ground at 200 knots is quite impressive!

Further information on the tussock moth campaign can be found on the internet at:
www.gwr.govt.nz/forestry/evergreen.

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A LARGE QUEEN ASIAN HORNET (*VESPA AFFINIS;* HYMENOPTERA: VESPIDAE) CAPTURED LIVE IN ARROWTOWN.

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and
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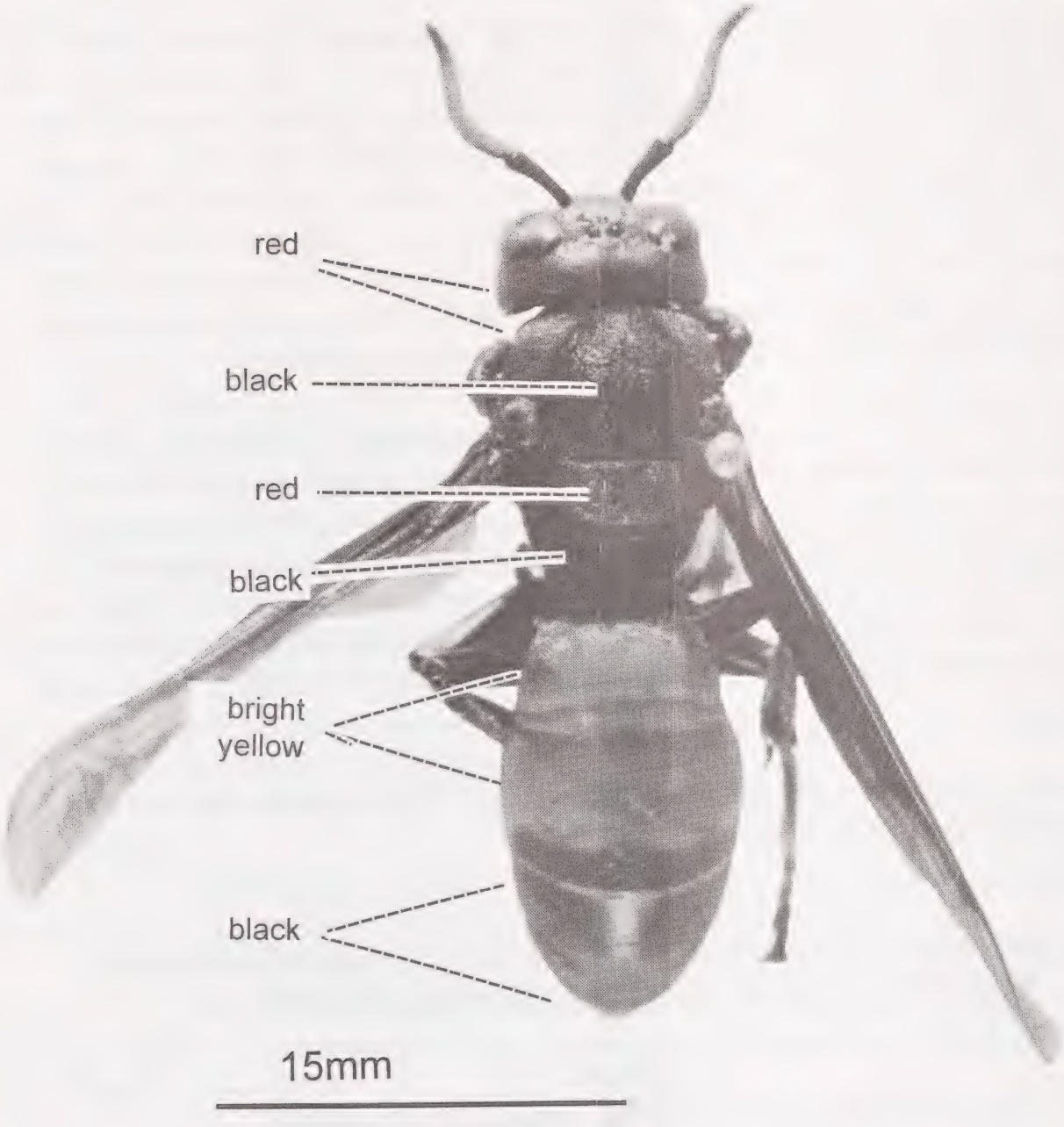
ABSTRACT
This note records the capture of a live queen of the brightly coloured Asian hornet,
Keywords: Hymenoptera; Vespidae, *Vespa affinis,* queen, Arrowtown, New Zealand.



Vespa affinis affinis Linnaeus in Arrowtown, New Zealand

On 5 January 1997, Mr. G Lindsay found, in the bathroom of his house in Arrowtown, a single live queen of the Asian hornet *Vespa affinis* Linnaeus, 1764, 28mm in length (fig. 1). It belongs to the nominate subspecies (*affinis*). Its strikingly vivid coloration and unusually large size both alarmed and intrigued Mr. Lindsay who contacted Brian Patrick of the Department of Conservation, who then showed it to the senior author. Repeated examination of the area failed to elicit either further specimens or any evidence of nests.

This specimen has the head and antennae red, the mesosoma black except the pronotum, tegulae, scutellum, and metapleuron, which are red, while the metasoma has the first two terga yellow, and the remaining terga black. The fore legs are reddish-brown, the middle and hind legs black. The wings are hyaline, uniformly tinted with orange and tinged in places with fuscous.

The wasp runs out to *V. affinis* using the keys in van der Vecht (1957), Das and Gupta (1989), and Matsuura and Yamane (1984). This species can usually be distinguished from other Vespinae by the following combination of characters: body length 24-28mm in queens (♀) and about 20 mm in both workers (☿) and males (♂). Temple in dorsal view wide, area of head posterior to compound eyes large, so that distance between posterior ocellus and posterior of head exceeds distance between posterior ocellus and eye.

Queen and worker with the body slender, malar space about 0.6-0.7 x the length of penultimate antennal segment, basal width of mandible about 4.5 x the malar space; interantennal shield triangular, ocelloocular distance about 1.5 x the interocellar distance; apical margin of clypeus moderately emarginate, but without a median tooth, lateral lobes prominent; fore femur swollen, not flattened ventrally; punctures on vertex, thorax and metasoma closer and coraser, those on mesoscutum and scutellum being somewhat rugulose; first intercubitus usually straight. Colour pattern distinctive, the ground colour being reddish-brown (head and mesosoma), and usually with metasomal tergites 1 and 2 yellow and 3-6 black.

Vespa affinis is highly variable in colour, as is *V. tropica,* the only species with which it might be confused. However the anterior margin of the clypeus on each side of the median excision has a short, broadly-rounded lobe (vs. a blunt, triangular tooth in *V. tropica*); the lower, vertical area of the pronotum lacks strong, transverse ribs (present in *V. tropica*), and the body has only sparse, fine hairs (vs. covered with strong, stiff, bristles in *V. tropica*).

Ten geographically-separated colour variants of *Vespa affinis* were listed by van der

Vecht (1959), Edwards (1980) and Matsuura and Yamane (1984). Although Archer (1989) abandoned formally-named subspecies, colour variation provides a clue as to where the wasp may have originated. The colour form *V. affinis archibaldi* van der Vecht 1957, from Northern New Guinea, resembles the Arrowtown specimen, as does *V. affinis affinis* (L.) from the Asian continent - China and India. The specimen from Arrowtown runs out to *V. affinis archibaldi* on the key to subspecies in van der Vecht (1957), which omits *V. affinis affinis.* However, when van der Vecht (1959) subsequently gave a brief description of *V. affinis affinis,* he recorded brown markings on the frons and clypeus of Chinese and South East Asian specimens, leaving *V. a. archibaldi* as the subspecies most like the Arrowtown specimen. Das and Gupta (1989) noted that previous authors had sometimes been misled in their estimations of the distributions of the various *Vespa* subspecies by mislabelled specimens. Significantly, the description of *V. affinis affinis* given by Das and Gupta (1989) very closely matches the Arrowtown specimen, which is similar to some from South China and Taiwan. Dr. J. Kojima (pers. comm.) noted that *V. affinis affinis* specimens from the southern-most islands of Japan were usually redder and yellower than continental specimens, which were darker. Taiwanese specimens are apparently lighter than those from the continent. When New Zealand's overseas import-export relationships are also taken into consideration, Taiwan (tentatively) seems the most likely country of origin for the wasp.

In tropical areas of the Ryuku Islands, *V. affinis* constructs its nests on twigs of small trees. A thick scalloped envelope completely covers the nest combs. Mature nests have four to five combs and 800-1500 cells (Matsuura and Yamane, 1984).

According to Matsuura and Yamane (1984), nests in Sumatra are much larger, with over five times as many cells. Nests can be founded by only one queen (haplometrosis), or by 2-8 queens (pleometrosis), of which only one (rarely 2) takes part in oviposition (Ito, 1993). Workers are not particularly aggressive when disturbed by humans (Matsuura and Yamane, 1984).

Vespa. affinis has not previously been recorded from New Zealand.

REMARKS

It is likely that a fecundated, hibernating new queen was brought to New Zealand from a South East Asian country, possibly Taiwan. Because the Northern Hemispheric northern limit for this species is Yayeyama Island in the Ryukyu Islands, south of mainland Japan, average temperatures in New Zealand are likely to be too low for it to be capable of becoming established here.

ACKNOWLEDGEMENTS
We are very grateful to Dr. J. Kojima for helpful comments and for posting reprints of papers not available in New Zealand.

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FIRST INTERCEPTION OF *PYRRHARCTIA ISABELLA* (J.E. SMITH, 1797) (LEPIDOPTERA : ARCTIIDAE) IN NEW ZEALAND

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On 29 January 1997 Mr Digby Turner of Otaki brought an unusual looking caterpillar (Figs 1, 2) into the Museum of New Zealand for identification. Fully extended, it was about 30 mm long and 10 mm in diameter, including the coat of setae. It was clearly banded transversely, with the first & last thirds black, and the middle third reddish brown with a golden tint. The caterpillar was identified as a late instar larva of the 'Isabella tiger moth', *Pyrrharctia isabella* (J.E. Smith, 1797) of the family Arctiidae. On 10 February 1997, having eaten a small quantity of lettuce leaf, it pupated. The pupa, inside its cocoon, was left in the laboratory at a temperature range of 20° - 22° C. After 3 weeks, on 3 March, the adult moth emerged and we were able to confirm its identification. Its colour is generally yellow-ochraceus, with scattered black spots on the forewing, paler hind wings, and a brighter body. The antennae are conspicuously yellow on the dark head. The abdomen has three longitudinal rows of black spots, one mid-dorsally and two mid-laterally. This specimen has been pinned and deposited in the Museum's collection together with the pupal cocoon.

The larva of this moth is known in the U.S.A. as the "woolly bear" or "banded woolly bear". It is described in Comstock et al. (1930) as "the evenly clipped, furry caterpillar reddish-brown in the middle and black at either end, which is seen so commonly in the autumn and early spring". *Pyrrharctia isabella* overwinters in the larval stage in sheltered conditions and feeds briefly in spring before pupating (Metcalf and Flint, 1939). It is possible that the caterpillar found in Otaki arrived here in a dormant state induced by the northern winter and became active upon exposure to the New Zealand summer.

Mr Turner stated he was hosting an exchange student from Indiana, U.S.A., who had arrived in New Zealand about a week before the discovery of the caterpillar "crawling on the carpet of the student's bedroom". In our opinion, the caterpillar either came in with this person's luggage or arrived in one of two parcels the student received from the U.S.A. within that week.

Pyrrharctia isabella appears to be widespread and common in eastern North America. It is reported as feeding on a wide variety of food-plants "including asters,

[1] For the benefit of overseas readers, This is Maori for 'house of treasures' - according to the museum staff member I asked.

birches, clover, corn, elms, maples and sunflowers" (Covell, 1984). It has also been bred in the laboratory on an artificial diet (Byers & Hinks, 1976). Clearly if this species were to become established in New Zealand, it would be a disaster for agricultural and horticultural producers. Indeed, Dr Bernard Landry (pers. comm.) a lepidopterist at Berkeley, California, told us "My advice is: Never let this species get introduced in NZ!".

We have checked the Ministry of Agriculture & Fisheries' published records of interceptions of insects, mites and other animals entering New Zealand from 1955 to 1982, without finding any reference to *P. isabella*. Further we have asked Mrs Olwyn Green of MAF, Lynfield, for information on any interception after 1982, and it appears
that our present record is the first interception of the Isabella tiger moth in New Zealand.

ACKNOWLEDGEMENTS:
We would like to thank the following: Mr John Dugdale and Ms Lisa Boutin for their assistance in identifying this specimen; Mr Michael Hall for the photographs; Dr Bernard Landry and Mrs Olwyn Green for providing additional information and Prof. Robert L.C. Pilgrim for comments on the manuscript.

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Fig. 1 - 2: *Pyrrharctia isabella*, mature caterpillar. 1, dorsal view; 2, lateral view

CODFISH ISLAND MOTHS

Brian Patrick
Department of Conservation
Box 5244
DUNEDIN

Stewart Island moths have not been intensively studied but Howes (1914) listed species from Ruggedy and Halfmoon Bay while Patrick et al. (1989) reported on the Mason Bay fauna and later on the alpine fauna of Stewart Island (Patrick et al. 1992).

This brief report list the moths, together with annotations from six excellent collections from Codfish Island between April 1992 and April 1993 received from Rhys Buckingham, Hamish Leary and Simon Torr. They were received in good condition, often alive and most specimens are in my collection.

Codfish Island (1214 ha) is off the north-west coast of Stewart Island in southern New Zealand and the most important habitat for the highly endangered flightless native parrot, kakapo. It rises to 227 metres above sea level and is generally forest or shrub covered with some wetland. Substantial sand dunes exist also at Sealers Bay.

RESULTS

The following moth species were found in the following months. Annotations relate to known larval food or ecology and species biogeography.

Lepidoptera Family and Species	Month/s Recorded	Notes Larval food plant/ecology
Hepialidae		
Aoraia insularis	Feb-March	endemic to Stewart Island's offshore islands. A large and distinctive species - wingspan up to 65 mm
Tineidae		
Monopis ethelella	February	widespread, larvae on fibre
Sagephora exsanguis	November	associated with wetland *Carex*
Psychidae		
Mallobathra sp. aff. *crataea*	November	diurnal, larvae in case, forest
Oecophoridae		
Hofmannophila pseudospretella	February	domestic world-wide exotic species
Tingena sp.	November	larvae in leaf litter

Endrosis sarcitrella	October	domestic, world-wide exotic species
Carposinidae		
Heterocrossa cryodana	November	larvae on fruits
Tortricidae		
Strepsicrates zopherana	October/November	larvae on manuka, diurnal adults
Planotortrix puffini	April	larvae web leaves of *Brachyglottis* and *Olearia*. Only Stewart Island, coastal Catlins and Fiordland
Planotortrix excessana	May	ubiquitous leaf roller
Catamacta gavisana	November	polyphagous on trees
Apoctena flavescens	November	polyphagous on shrubs
Pyralidae		
Patagoniodes farinaria	February	larvae bore into *Senecio* spp.
Crambidae		
Orocrambus ramosellus	March/April	larvae in grass bases
Orocrambus vittellus	February	larvae in grass bases
Eudonia cyptastis	November	larvae in upland wetlands
Eudonia paltomacha	November	larvae in upland wetlands
Eudonia sabulosella	November	larvae sodworm in dunes
Eudonia minualis	February	larvae on mosses
"Scoparia" minusculalis	March	larvae on mosses
Pieridae		
Pieris rapae (white butterfly)	March	larvae on crucifers, exotic
Arctiidae		
Nyctemera annulata (magpie moth)	November	larvae on *Senecio* spp.
Noctuidae		
Agrotis sp. nr. *innominata*	November	dune species, larvae on *Calystegia*, marram, etc
Rhapsa scotosialis	October/May	larvae on leaf litter
Tmetolophota phaula	November	coastal; larvae on pingao, etc
Tmetolophota atristriga	March	larvae on grasses, common
Aletia moderata	May	common larvae on *Raoulia*, herbs
Aletia temperata	October	coastal dunes, rare in the south
Meterana n.sp. aff. *pictula*	April, November	dunes, larvae on *Pimelea*, rare southern species
Graphania ustistriga	October	larvae on shrubs and herbs, common
Graphania sericata	October	upland forest, larvae on herbs,

		southern species
Graphania mutans	October-April	ubiquitous, larvae on herbs
Graphania lignana	Mar-Apr-May	common, larvae on grasses
Graphania agorastis	February	wetlands
Geometridae		
Pasiphila charybdis	February	larvae on *Hebe elliptica*, southern species
Pasiphila sandycias	May	larvae on *Coprosma* spp.
Orthoclydon praefectata	October-May	larvae on flax, common
Chloroclystis inductata	November	larvae on flowers
Poecilasthena subpurpureata	October-February	larvae on manuka
Poecilasthena pulchraria	October-February	larvae on *Gaultheria*
Tatosoma tipulata	November	polyphagous; forests
Helastia cinerearia	November-May	larvae on mosses on rock faces
Xanthorhoe semifissata	May	larvae on *Cardamine*, forest
Austrocidaria similata	May	larvae on *Coprosma* spp.
Austrocidaria gobiata	May	larvae on *Coprosma* spp.
Austrocidaria callichlora	October-May	larvae on *Coprosma* spp.
Epicyme rubropunctaria	November	larvae on *Gaultheria*
Epiphryne charidema	October-November	larvae on *Dracophyllum*, to 220 m
Homodotis falcata	October-November	larvae on leaf litter, southern species
Epyaxa rosearia	October	larvae on herbs, open areas
"Xanthorhoe" occulta	October	larvae on herbs at 220 m
Microdes epicryptis	October	larvae on *Juncus*, uncommon
Ischalis fortinata	October	larvae on *Polystichum* (hard fern)
Chalastra pellurgata	October-May	larvae on *Polystichum* (hard fern)
Pseudocoremia suavis	October-March	larvae polyphagous on trees
Pseudocoremia fenerata	April	larvae on podocarps
Pseudocoremia productata	May	larvae polyphagous, forests
Sarisa muriferata	October	larvae on Hounds Tongue fern
Declana leptomera	November	larvae polyphagous; forest
Declana floccosa	October-November	larvae polyphagous; forest
Xyridacma ustaria	May	larvae on *Pittosporum tenuifolium*
Xyridacma alectoraria	October-November	larvae on three finger (*Pseudopanax*)
Xyridacma veronicae	February-May	larvae on *Hebe* spp.

SUMMARY

A total of 64 moth species have been recorded of which only four species are exotic. One species (*Aoraia insularis*) is endemic to the Stewart Island area while another four species are restricted to Stewart Island and coastal Otago/Southland.

A further three species are uncommon coastal moths of dunes, reflecting the high conservation value of the Sealers Bay dune system. The upland wetlands are

interesting also with a distinctive fauna.

An undescribed pink and green coloured noctuid in the genus *Meterana* is known from only three sites; Sealers Bay - Codfish Island, Mason Bay and Three Sisters Sand Dune near Bluff on the other side of Foveaux Strait. The green/white and red larvae feed on *Pimelea lyallii*, another southern endemic. The moths small natural distribution and rarity mean it is threatened with extinction especially from chance events. Similarly the *Agrotis* sp. nr. *innominata* is probably a distinct southern species with a brachypterous (flightless, short-winged) female. The limited dispersal ability of the female leads to increased risk for the species of local extinction due to habitat disturbance, etc and recovery will be extremely slow if at all. Incremental local extinctions can lead to complete extinction. It is highly likely that this dune system is home to the undescribed Stewart Island endemic moth in the genus *Notoreas*. Only known from three specimens collected at Mason Bay (Patrick et al. 1989), it has larvae feeding on the low shrub *Pimelea lyallii*.

More survey work is needed to build on the information contained here, especially to highlight the possible high conservation value of the dune systems of the island. It may be possible to further utilise the personnel associated with the Kakapo recovery work to obtain more specimens.

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*

INVASION OF AUSTRALIAN BLUE MOON BUTTERFLIES *HYPOLIMNAS BOLINA NERINA* (LEPIDOPTERA: NYMPHALIDAE) IN DUNEDIN, 1997.

A.C.Harris

Otago Museum, PO Box 6202, Dunedin North.

On 31 March, 1997, Mr. M. McPherson observed a female Blue Moon Butterfly (*Hypolimnas bolina nerina* (F.)) in Anderson Bay Road, Dunedin. Later that day, a second specimen was reported to the Museum from South Dunedin. On 2 April 1997, Ms. Jo Anne McKellar observed a female Blue Moon Butterfly in her garden at 7 Coughtrey St., St. Clair, Dunedin.

To my knowledge, this is only the second occasion in the last 22 years that Blue Moon Butterflies have been recorded in Dunedin City.

TWO LIVE HIBERNATING ASIAN PAPER WASPS (*POLISTES CHINENSIS ANTENNALIS*) (HYMENOPTERA; VESPIDAE) CAPTURED IN DUNEDIN.

Anthony C. Harris
Otago Museum, Box 6202, Dunedin North.

The Asian paper wasp, *Polistes chinensis antennalis* Perez, which is native to parts of East Asia, including Japan and China, is spreading throughout New Zealand. The first New Zealand record was in Auckland in 1979 (Clapperton et al., 1989) and it is now established throughout the northern half of the North island and Nelson. Occupied nests have been found in several lower North Island localities and in Blenheim and Christchurch. This species probably has the potential to become established throughout New Zealand.

On 8 August 1996 Mr. Steve Proctor of Otis Elevator Co. Ltd., opened packets of consignments for a lift being constructed in a new building in South Dunedin. As he opened one box, an "unusual wasp" crawled out but he was able to capture it and placed it in a vial. When he examined the box, he found a second live female *P. c. antennalis,* which he also captured. He gave me the specimens and requested an identification.

The box of lift parts, despatched from France, had been opened in Auckland, then sent on to Dunedin. Had the hibernating new queens escaped, they could potentially have founded nests and established colonies in Dunedin.

The present record indicates how readily this species can be introduced into new areas within New Zealand.

REFERENCE

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NEWS FROM AUSTRALIA

Christchurch

The First Joint Conference of the Australian and New Zealand Entomological Societies took place at Lincoln University in September. More than 220 registrants made this a large conference for either Society, with 50 Australians making the big trek across the Tasman. Congratulations go to **Rowan Emberson, John Marris** and **Jeanette King** who together made this one of the best conferences this correspondent has attended in recent years. Along with the interesting and varied program of contributed papers was an

outstanding display of posters and a large number of excellent contributions to both the photographic and scientific illustration competitions. Congratulations particularly to **John Marris** who completely dominated the photographic competition with his outstanding work.

The social program was also well organised and enjoyable and the agreement that joint conferences will become a regular feature of the two societies was well received. The next joint conference will be held in Australia in three years time - keep an eye on the *Weta* for details.

Florence

A large contingent from both Australia and New Zealand attended the International Conference in Florence. An unfortunate lack of co-ordination in timing meant that this conference overlapped slightly with the Christchurch conference and took some significant faces to Europe instead of to New Zealand, especially the CSIRO entomologists from Canberra. Also missing from Christchurch were the new AES President, **Roger Kitching**, and Vice President, **Myron Zalucki**, who went to Florence instead of Christchurch. Their main purpose was to present a proposal, on behalf of the Australian Entomological Society, to host the next International Congress in Brisbane in 2000. Unfortunately, their proposal was beaten by Brazil, but the effort was worth it.

1996 Mackerras Medal

Associate Professor **Myron Zalucki**, the new Vice President of the Society, has been selected to receive the 1996 Ian Mackerras Medal for excellence in Entomology. The Medal is awarded every two years, where suitable applicants are nominated. Previous winners, listed on the inside cover of each issue of Myrmecia are Tony Watson (1984), Bob Sutherst (1986), Tim New (1988), Dick Drew (1990) and Ebbe Nielsen (1992). No award was made in 1994. Myron was selected following nomination on the ground of his outstanding contributions to entomology in Australia in the fields of insect ecology, teaching and professional services.

Deaths

It is with regret that we record the deaths of **Paul N. Forte** (1915 - 1996) and **Arthur Woods** (1929-1996). Paul was a founder member and first State Representative for Western Australia of the Australian Entomological Society. Arthur joined The University of New South Wales in September 1961 as a lecturer in the then School of Biological Sciences, and remained on the staff of UNSW for over 33 years as Lecturer and then Senior Lecturer.

The current issue of Myrmecia, the News Bulletin of the Australian Entomological Society, carries obituaries for both of these eminent entomologists. The same issue also carries an obituary for the Biological and Chemical Research Institute of NSW Agriculture, which will be formally closed on 1 February 1997. First established in 1961 to bring together the three scientific branches of the Department, Biology, Chemistry and Entomology, the Institute is being carved up to create Centres of Excellence in regional centres in NSW. The Rydalmere establishment has been a major force in agricultural research and extension in Australia for 36 years and its closure has shocked the international scientific community, many of whose members sent submissions of support on behalf of the Institute to the Premier of NSW, to the Minister for Agriculture and to the Senate Standing Committee on State Development, which reviewed the decision. Alas, all was in vain and those hardy souls who are now preparing to make their moves into the wilds of country NSW have resigned themselves to the inevitable.

Ten Years On

Two establishments are celebrating a decade of existence.

The Queensland Museum has now been at its current site on the banks of the Brisbane river for 10 years and CERIT is now celebrating 10 years as a Centre of the University of NSW.

New Australian Entomological Society Home Page

The University of Queensland has added a page on behalf of the Australian Entomological Society detailing membership, officers of the

Society, publications of the Society and other useful information. Members are invited to visit the site and tell your friends about it. You will find it at:

http://www.uq.edu.au/entomology/aes/intro.html

Platypus Launched

Platypus, a comprehensive, relational database package for taxon based faunal work, developed by ABRS, was launched in August. A free demonstration version, details and an order form are available on the Net at:
http://www.ento.csiro.au/platypus/platypus.html

NEW SCIENTIFIC SOCIETY

Society of Australian Systematic Biologists

A new scientific society was formed on the 4th October in Melbourne to represent the interests of systematic and evolutionary biologists in Australia. The Society will hold regular conferences/symposia, foster systematics as a discipline and the training of systematists, and act to lobby government agencies and funding organisations that are involved or have interests in systematics, biodiversity, conservation, etc. The Society will hold its first conference in the later part of 1997 in Adelaide, jointly with the Australian Systematic Botany Society (see separate notice).

All communication within the Society will be by email. It is not intended to have a scientific journal as there are already numerous outlets in existence. Presently the Society is FREE to join, although a small membership fee will be introduced sometime in the future. To join, all you have to do is Email Mike Crisp at ANU (Mike.Crisp@anu.edu.au).

Murray J. Fletcher
Australian Correspondent

(Since this was written, the Taxonomy group, now called the Scientific Collections Unit, has begun settling in to a brand new collections building in Orange. Other refugees from BCRI Rydalmere have not been so fortunate with building being restricted to those required by legislation, in the case of the taxonomy unit this was due to the statutory protection provided by the Agricultural Scientific Collections Act of 1983. Others may need to wait until the next financial year when further building funds will be available. In the meantime they are toughing it out as best they can. The main building at BCRI Rydalmere has now been taken over by the University of Western Sydney who will use it as biological laboratories.)

Ross Adamo of Block A, unit 1, 105-111 Campsie Road Sydney 2194 is interested in exchanging Australian beetles: Lucanidae, Bupresidae, Cerambycidae, Cetonidae, Scarabidae, Carabidae, Sagriinae (Chrysomelidae), Curculionidae, as well as Australian Lepidoptera.

A revision of the *'Annotated checklist of ectoparasites of terrestrial mammals in New Zealand'*

J D TENQUIST, W A G CHARLESTON

The 1982 annotated checklist of Tenquist and Charleston is being completely revised. Since the annotated checklist of ectoparasites of terrestrial mammals in New Zealand *(Journal of the Royal Society of New Zealand*, Volume 11, No 3, pp 257-285, was published in 1981, there have been a number of additions to the records and several taxonomic changes.

Entomologists may well have published or unpublished records or new and unusual associations and the authors wish to hear about these as they are keen to make the list as complete as possible. Of particular interest are records of parasites of recently introduced species such as alpacas and llamas.

Supplements to existing records will be useful and welcomed for the 'note' section of the list. Please address any information to **John Tenquist** at P O Box 40 063, UPPER HUTT.

NEW USE FOR USELESS SPECIMENS OR, NEW FAD FOR ENEBRIATED ENTOMOPHOBES?

A builder/glazier(?) in Auckland has been embedding insects, centipedes; you name it, in resin topped benches. One timber slab with grooves, containing a weta, is to be found in 'Grandma's Kitchen' (formerly 'Out of Town') at Bombay, on the motorway. That octagonal building next to the chocolate factory and snack shop. (Kay Chadfield, pers. com.) In Avondale the 'Hook Line and Sinker' Tavern has a large *Cormocephalus* centipedes embedded in a natural groove in the pine slab bench top. The latest one in a soon-to-be-opened bar will contain a huhu beetle and carabids, but its situation is in such a sleazy part of central Auckland, that the builder refused to tell me the address! Another privately owned coffee table is known to be made from a swamp kauri slab complete with leaf litter (and associated fauna?) in the pits and holes. Any others?

Olwyn Green, 40 Preston Avenue, Henderson, Auckland 8.

THE MICROBIAL GROUP AT AGRESEARCH LINCOLN HAVE RECENTLY PUBLISHED:

Proceedings of the 3rd International Workshop on Microbial Control of Soil Dwelling Pests

Eds TA Jackson & TR Glare
ISBN 0-473-043084

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NEWS FROM OTAGO

Field Trips

A field trip is being planned for Labour Weekend in October Possible sites are St Bathans or Makaroara St Bathans should be a good site for Carabid beetles Any ideas or suggestions? Please raise them at a meeting.

Jottings.

Tony Jewel, our member in Riverton has been looking for lizards, and has found a new skink in Takitimu Range

Peter Cranston, an Eminent Entomologist from Australia who has been working on taxonomy of midges, was sent midges that Eric Edwards collected from the Upper Lee stream catchment. Among them was *Stictocladius* - a new genus for Otago.

Honey from the Solomons Islands has been for sale in the Trade Aid shop since before Christmas. Knowing that honey is one of the undesirable imports for travellers from overseas, our sleuth did some inquiring, and was told by MAF that the Solomons Islands is the only disease free honey producer that New Zealand can import from. Honey production is being increased in the Solomons Islands with villagers building more hives, because bee keeping fits in with their life style. They can work their hives when they need a cash flow and garden and fish otherwise. The honey tastes quite strong and is dark and rather runny.

An interesting home page on Internet for those who have access to Internet - http://www.ent.iastate.edu/LIST/complete.html

Keith Wise - Former entomologist at Auckland Museum and now their Research Associate has revised the Neuroptera of New Zealand. This will be published on the Fauna of New Zealand.

WANTED - Information on NZ planthoppers of the family Cixiidae

I am currently revising the NZ Cixiidae. This group has not been worked on much

since 1924, but New Zealand has a very unique fauna. Seventeen species were known before this study. The fauna now totals more than 25 species and is mostly endemic. I am keen to include as much information as possible on distribution and biology in my taxonomic review.

I would be most grateful for any information on distribution and biology, especially host plant records. Unidentified specimens with good label data are welcome, as well as copies of published papers or reports that authors wish to see cited in my forthcoming publications. Papers mentioning enemies of planthoppers such as other arthropods, birds or reptiles, would be of particular interest. Contributors will be duly acknowledged at the time of publication.

A number of papers dealing with the biosystematics of individual genera will be published in 1996 and 1997, starting with the genera Koroana and Aka. Publication of a final review of the whole family is projected for 1998/99.

Marie-Claude Lariviere
Research Leader
Invertebrate Systematics
Landcare Research
Private Bag 92170, **Auckland**
Tel. 09 815 1039 Fax. 09 849 7093. E-mail Larivierem@landcare.cri.nz

*

Patrick Folschveiller is hoping to start up an entomological exchange centre near Paris and is keen to get large quantities of the following families:

Beetles: Cerambycidae, Lucanidae, Buprestidae, Cetonidae, Scarabeidae, Cinindelidae, Curculionidae.

Butterflies: All kinds of colourful butterflies, Sphingidae and Saturnidae.

Other insects: Fulgoridae, Cicadidae, Mantidae, Phasmidae, Orthopteres, Arachnidae, Scorpionidae.

He wants perfect condition specimens with if possible, date and place of capture - either buy or exchange. He is also keen to have addresses of collectors in any tropical country. He can be reached at: 2, Avenue Gutenberg- Bât E 171 92800 PUTEAUX, France.

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Notes for contributors

The Weta is a supplement to the *New Zealand Entomologist*. Editing is minimal and **authors are responsible for the accuracy of their manuscripts.** Authors should submit manuscripts on disk (Word Perfect or MS word) with an accompanying hard copy. Authors without access to computing facilities may submit articles typed (double spaced) on one side only on A4 paper. High contrast photographs or penned line drawings are acceptable.

The purpose of *The Weta* is to provide a medium for members to have their entomological observations recorded. Before submitting an article to *The Weta,* please consider whether or not it might be more appropriate to publish in the *New Zealand Entomologist.*

The Weta is catalogued and cited by abstracting journals.

Cover picture

Deinacrida connectens (Photo: George Gibbs)

Deinacrida connectens is the only giant weta that is not a totally protected species under the Wildlife Act Amendment.

It occurs almost the whole length of the South Island from Mt Arthur to Takitimu Range on exposed rocky scree above 1200 m. This specimen, an adult male, is from the Southern limit of its distribution.

George Gibbs

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